

PATRICK J. SMITH
Environmental Engineer

(740) 283-5542

May 20, 2005

Ms. Estena McGhee
U.S. Environmental Protection Agency
1650 Arch Street
Philadelphia, PA 19103-2029

Re: 35th Progress Report, Period – March 1 to April 30, 2005
Wheeling Pittsburgh Steel Corporation
Follansbee, West Virginia Facility

Dear Ms. McGhee:

Attached is the 35th Progress Report for the RCRA Facility Investigation (RFI) being performed for the Wheeling Pittsburgh Steel Corporation (WPSC) Follansbee, West Virginia Facility.

1. Description and estimate of percentage of the RFI completed

Surveying of the RFI groundwater monitoring network was completed during this reporting period. In addition, two reference points in the Ohio River and at three reference points along Mahan's Run were surveyed.

Third party validation of subsurface soil and groundwater sampling data was also completed during this reporting period. Narrative summaries of the third party validation reports are attached.

2. Summary of all findings

As indicated on the enclosed third party validation report narratives, revisions will need to be made to laboratory results that were summarized on previously submitted analytical summary tables. These tables will be resubmitted upon incorporation of revisions from the third party data validation.

3. Summary of all changes made during the reporting period

No changes were made during the reporting period.

Ms. Estena McGhee

May 20, 2005

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4. Summaries of all contacts with representatives of the local community, public interest groups, or state government during the reporting period.

No contacts were made with representatives of the local community, public interest groups, or state government during the reporting period.

5. Summaries of all problems or potential problems encountered during the reporting period

No problems were encountered during the reporting period.

6. Actions being taken to rectify problems

No problems were encountered that need to be rectified.

7. Changes in personnel during the reporting period

No personnel changes were made during this reporting period.

8. Projected work for the next reporting period

The following work is expected to be completed during the next reporting period:

- Revise screening tables as necessary based on the results of third party data validation.

9. Copies of daily reports, inspection reports, laboratory/monitoring data, etc.

Third party validation report summaries for subsurface soil and groundwater are enclosed.

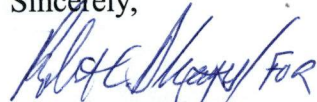
Also attached are field reports and charts indicating the results of monitoring activities at the Coal Tar Pipeline Release Area. Only Recovery Well PS has yielded recoverable product in recent periods, as has been the case historically.

Finally, the monthly inspections of the tar wicking area east of Route 2 are attached. Tar wicking was not observed outside the fenced areas during our routine inspections (attached).

Ms. Estena McGhee
May 20, 2005
Page 3

If you have any questions, please contact me at (740) 283-5542.

Sincerely,

A handwritten signature in blue ink, appearing to read "Patrick J. Smith" with a stylized flourish at the end.

Patrick J. Smith
Environmental Engineer

Attachments: Coal Tar Pipeline Fluid Recovery Logs (March & April 05)
Tar Wicking Monthly Inspections (March & April 05)
Narrative Summaries of Third Party Validation for Subsurface Soil and
Groundwater Samples

cc: D. Olson (CEC)
H. Michael Dorsey (WVDEP - Charleston, WV) (3 copies)
WVDEP - Wheeling, WV
ECSF
ECMF 1.4.3.4.1

COAL TAR PIPELINE AREA FLUID LEVEL RECORD AND PRODUCT RECOVERY LOG WHEELING PITTSBURGH STEEL CORPORATION

Date: 3-3-05
 Client: Wheeling Pittsburgh Steel
 Location: Steubenville East Coke Plant
 Technician: B. TATSCH
 Measured With: Interface Probe/Gauge Rod

CEC Project No.: 210052
 City/County/State: Follansbee, Brooke County, WV
 Measuring Point: Top of Steel Casing (well collar)
 Project Manager: D. Olson/CEC, Inc.

Well #	Time	Total Well Depth Feet	Measuring Point Elevation Feet	Depth to Water Feet	Depth to Coal Tar Feet	Product Thickness Feet	Tar Recovered (Est. Gallons)
PS	1100	15.08	N4	10.17	N4	0.75	1.0
PN-R	1045	13.40		12.71			
RS	* NOT MEASURED - INNER PVL CAP LODGED IN CASING. WILL NEED TO DRILL AND PULL DURING NEXT EVENT						
RN	1150	14.50		8.71			
KS	1205	14.56		8.41			
KN	1140	14.33		8.37			

Comments:

APPROX. 1.0 GALLONS OF COAL TAR REMOVED

2.0 GALLONS OF WATER BAILED AND PLACED BACK INTO WELL

COAL TAR PIPELINE AREA
FLUID LEVEL RECORD AND PRODUCT RECOVERY LOG
WHEELING PITTSBURGH STEEL CORPORATION

Date: 4-5-05

Client: Wheeling Pittsburgh Steel

Location: Steubenville East Coke Plant

Technician: _____

Measured With: Interface Probe/Gauge Rod

CEC Project No.: 210052

City/County/State: Follansbee, Brooke County, WV

Measuring Point: Top of Steel Casing (well collar)

Project Manager: D. Olson/CEC, Inc.

Well #	Time	Total Well Depth Feet	Measuring Point Elevation Feet	Depth to Water Feet	Depth to Coal Tar Feet	Product Thickness Feet	Tar Recovered (Est. Gallons)
PS	1110	15.08	NA	9.52	NA	0.75	0.75
PN-R	1115	13.40		7.08		—	
RS	9035	14.92		8.02		—	
RN	1050	14.50		8.42		—	
KS	1025	14.56		8.54		—	
KN	1010	14.33		7.92		—	

Comments:

Date: 5-9-05
Client: Wheeling Pittsburgh Steel
Location: Steubenville East Coke Plant
Technician: RSJ
Measured With: Interface Probe/Gauge Rod

CEC Project No.: 210052
City/County/State: Follansbee, Brooke County, WV
Measuring Point: Top of Steel Casing (well collar)
Project Manager: D. Olson/CEC, Inc.

Well #	Time	Total Well Depth Feet	Measuring Point Elevation Feet	Depth to Water Feet	Depth to Coal Tar Feet	Product Thickness Feet	Tar Recovered (Est. Gallons)	
PS	1205	15.08	NA	10.02	NA	0.75	0.75	
PN-R	1200	13.40	}	9.07	}			
RS	UNABLE TO LOCATE							
RN	1100	14.50				8.81		
KS	1115	14.56				8.13		
KN	1045	14.33				8.77		

[illegible]

05-MAY-19

02:18

FROM-WPSC Mingo Jct Environmental/Utilities

1-740-283-5779

T-408

P.003/003

F-135

ECSF

Updated 5/31/02

WPSC Follansbee Plant Tar Wicking Area Monthly Inspection

Note: Both North and South fenced areas must be inspected.

Date 3-3-05Inspector Ken G...Time 10:00 AM

1. Is any ground contamination outside of fences?

Yes ☐ No ☒

If present, indicate on map below, and date cleaned up: _____

2. Are warning signs present and legible?

Yes ☒ No ☐

3. Is the fence gate locked?

Yes ☒ No ☐

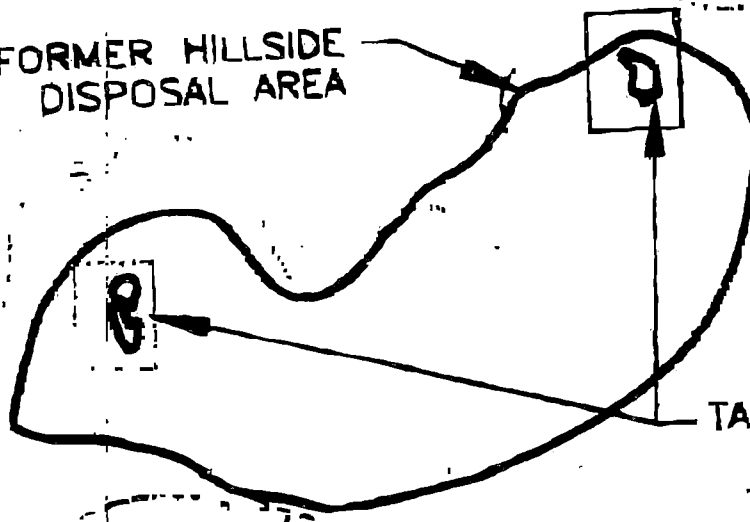
4. Is there any evidence of human activity?

Yes ☐ No ☒

5. Is gate locked at entrance of service road (behind parking lot)?

Yes ☒ No ☐

Comments/Follow-Up Actions (any yes to 1. or 4. answer must be explained):

Small fencedFORMER HILLSIDE
DISPOSAL AREA

TAR WICKING

G:\ECM\FSE\WASTE\Form\wick-ins.doc

APR-14-05 08:49AM

FROM-WPSC Mingo Jct Environmental/Utilities

1-740-283-5779

T-408

P.003/003

F-135

05-MAY-19

02:18

FROM-WPSC Mingo Jet Environmental/Utilities

1-740-283-5779

T-408 P.002/003 F-139

ECSF

Updated 5/31/02

WPSC Follansbee Plant Tar Wicking Area Monthly Inspection

Note: Both North and South fenced areas must be inspected.

Date 4-12-05

Inspector Kari G. Gwalt

Time 1:32 PM

1. Is any ground contamination outside of fences?

Yes ☐ No ☒

If present, indicate on map below, and date cleaned up: _____

2. Are warning signs present and legible?

Yes ☒ No ☐

3. Is the fence gate locked?

Yes ☒ No ☐

4. Is there any evidence of human activity?

Yes ☐ No ☒

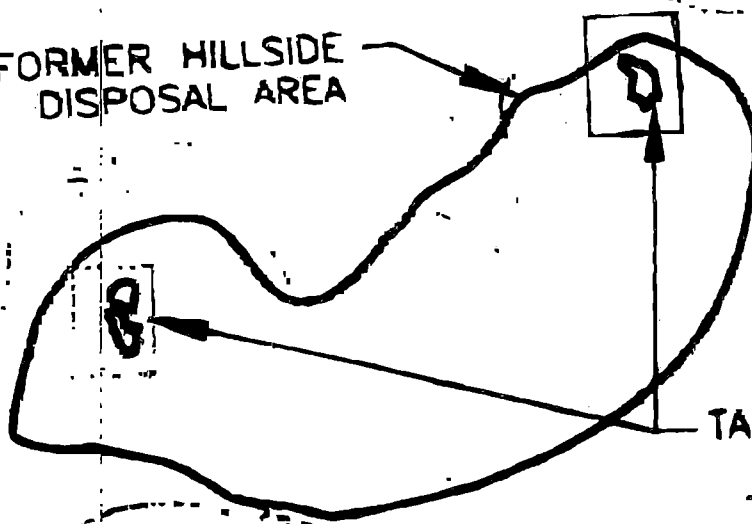
5. Is gate locked at entrance of service road (behind parking lot)?

Yes ☒ No ☐

Comments/Follow-Up Actions (any yes to 1. or 4. answer must be explained):

NO CHANGE

FORMER HILLSIDE
DISPOSAL AREA



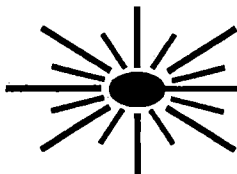
TAR WICKING

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Data Validation Report

**Civil and Environmental Consultants, Inc.
Wheeling Pitt Site**

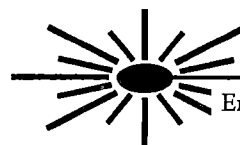
SDG# 04-5137 and 04-5655/04-5627



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ECT.CON INC.

Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	04-5137
Validation Report Date	April 19, 2005
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review Region III Modifications – June 1995
Client Name	CEC
Project Name	Wheeling Pitt
Laboratory	Pace Laboratories
Method(s) Utilized	SW-846 8260B, 8270C
Analytical Fraction	VOCs, SVOCs, %Solids

Samples/Matrix:

Date Sampled	Sample ID	Laboratory ID	VOCs	SVOCs	Matrix
10/21/04	MWH3S27.0	0410-2385	X	X	Solid
10/14/04	SBH37S8.1	0410-2386	X	X	Solid

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for Wheeling Pitt consists of two solid field samples. These samples were analyzed for the parameters as provided in the above table.

The organic findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct. The VOC and SVOC findings are based upon the assessment of the following:

- * • Data Completeness
 - Holding Times
 - * • Calibration (Initial and Continuing)
 - Blanks
 - * • System Monitoring Compounds (Surrogate Spikes)
 - * • Matrix Spike/Matrix Spike Duplicates
 - * • Laboratory Control Samples
 - * • Internal Standards
 - * • Target Compound Identification
 - Compound Quantification and Reported Contract Quantitation Limits
 - * • System Performance
- * Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines-Region III Modification for Organic Data Review, USEPA Region III Innovative Approaches to Data Validation Level OM2 for organics and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

MAJOR FINDINGS

VOLATILE ORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

SEMIVOLATILE ORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

MINOR FINDINGS

VOLATILE ORGANIC COMPOUNDS

1. Blanks

The following compound was detected in the laboratory method blank.

Blank	Compound	Result µg/Kg	Action Level µg/Kg	Qualification
MB 10/28	Methylene chloride	130	1300	Sample results <1300 – B

2. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS**3. Holding Times**

Samples were extracted 11 and 12 days after sample collection. Region III guidelines recommend a holding time of seven days from sample collection to extraction. Positive and nondetected sample results were qualified as estimated "J" and "UJ" in the following samples:

MWH3S27.0 SBH37S8.1

4. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

NOTES**VOLATILE ORGANIC COMPOUNDS****Calibration**

A continuing calibration percent difference (%D) exceeded the 25% quality control limit for bromomethane (47.6%). No qualifiers were assigned on this basis since the compound was not detected in the samples and the exceedance was less than 50%.

Matrix Spike/Matrix Spike Duplicate Results

A non-client MS/MSD was included in this SDG. This sample was not used as a basis for data validation. No action was required on this basis.

Laboratory Control Sample Results

Recoveries of acetone (150%), 2-butanone (176%), and 2-hexanone (143%) exceeded the upper quality control limit. No action was required on this basis.

Compound Quantitation

Samples MWH3S27.0 and SBH37S8.1 were analyzed and reported as medium level soil samples. This accounts for the elevated reporting limits for these samples. Data were not qualified on this basis.

Sample MWH3S27.0 was re-analyzed using a 1 µL sample aliquot due to the presence of benzene and toluene above the linear calibration range of the instrument. Results from the 1 µL analysis were transcribed over the original sample results and used for validation purposes for these compounds only. Data were not qualified on this basis.

Field Duplicate

A field duplicate pair was not included in this SDG. No action was required on this basis.

SEMIVOLATILE ORGANIC COMPOUNDS

System Monitoring Compounds

Surrogate recoveries fell below the lower quality control limit and/or below 10%. No action was taken on this basis since the non-compliant recoveries were due to the necessary dilution of the sample extract prior to analysis. Data were not qualified on this basis.

Matrix Spike/Matrix Spike Duplicate Results


Non-client MS/MSDs were included in this SDG. These samples were not used as a basis for data validation. No action was required on this basis.

Compound Quantitation

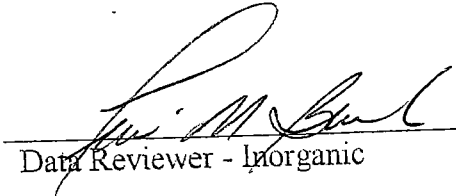
Sample MWH3S27.0 was analyzed and reported at a 100X dilution factor and sample SBH37S8.1 was analyzed and reported at a 10X dilution factor due to the presence of target compounds. This accounts for the elevated reporting limits for these samples. Data were not qualified on this basis.

Field Duplicate

A field duplicate pair was not included in this SDG. No action was required on this basis.


Data Reviewer - Organic

4/19/05
Date

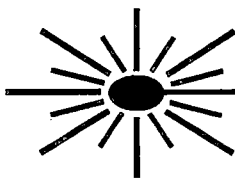

Data Reviewer - Inorganic

4/19/05
Date

Data Validation Report

**Civil and Environmental Consultants, Inc.
Wheeling Pitt Site**

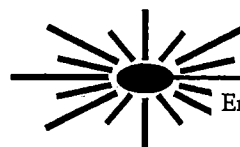
SDG# 04-4222 and 04-3782



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Data Validation Report

SDG#	04-4222
Validation Report Date	April 19, 2005
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review Region III Modifications – June 1995
Client Name	CEC
Project Name	Wheeling Pitt
Laboratory	Pace Laboratories
Method(s) Utilized	SW-846 8260B, 8270C
Analytical Fraction	VOCs, SVOCs

Samples/Matrix:

Date Sampled	Sample ID	Laboratory ID	VOCs	SVOCs	Matrix
08/31/04	SBH19S11.4	0409-0866	X	X	Solid
09/01/04	SBH21S15.0	0409-0867	X	X	Solid
09/02/04	SBH22S31.0	0409-0868	X	X	Solid
09/03/04	SBH23S43.5	0409-0869	X	X	Solid
09/03/04	SBH24S19.0	0409-0870	X	X	Solid

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for Wheeling Pitt consists of five solid field samples. These samples were analyzed for the parameters as provided in the above table.

The organic findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct. The VOC and SVOC findings are based upon the assessment of the following:

- *
 - Data Completeness
 - Holding Times
 - Calibration (Initial and Continuing)
 - Blanks
 - System Monitoring Compounds (Surrogate Spikes)
 - *
 - Matrix Spike/Matrix Spike Duplicates
 - *
 - Laboratory Control Samples
 - *
 - Internal Standards
 - *
 - Target Compound Identification
 - Compound Quantification and Reported Contract Quantitation Limits
 - *
 - System Performance
- * Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines-Region III Modification for Organic Data Review, USEPA Region III Innovative Approaches to Data Validation Level OM2 for organics and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

MAJOR FINDINGS

VOLATILE ORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

SEMIVOLATILE ORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

MINOR FINDINGS

VOLATILE ORGANIC COMPOUNDS

1. Calibration

Continuing calibration percent differences (%Ds) exceeded the 25% quality control limit on instrument HP15973 on 09/14/04 at 0829. Nondetected results for bromomethane (55%) were qualified as estimated "UJ" since the exceedance was greater than 50%. Positive results for acetone (25.2%) were qualified as estimated "J". Nondetected results for acetone were not affected.

SBH19S11.4
SBH24S19.0

SBH21S15.0

SBH22S31.0

SBH23S43.5

2. Blanks

The following compound was detected in the laboratory method blank.

Blank	Compound	Result µg/Kg	Action Level µg/Kg	Qualification
MB 09/14	Methylene chloride	11	110	Sample results <110 – B

3. System Monitoring Compounds

Recovery of 1,2-dichloroethane-d4 (57%) fell below the lower quality control limit in the low-level analysis of sample SBH23S43.5. Nondetected and positive results were qualified as estimated "UJ" and "J" for this sample.

SBH23S43.5

Recovery of toluene-d8 (136%) exceeded the upper quality control limit in the medium level analysis of sample SBH23S43.5. Positive results reported from the medium level analysis were qualified as estimated "J" for this sample.

SBH23S43.5

Recovery of 1,2-dichloroethane-d4 (45%) fell below the lower quality control limit in the low-level analysis of sample SBH24S19.0. Nondetected and positive results were qualified as estimated "UJ" and "J" for this sample.

SBH24S19.0

4. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS

5. Holding Times

Samples were extracted 10 to 13 days after sample collection. Region III guidelines recommend a holding time of seven days from sample collection to extraction. Positive and nondetected sample results were qualified as estimated "J" and "UJ" in the following samples:

SBH19S11.4
SBH24S19.0

SBH21S15.0

SBH22S31.0

SBH23S43.5

6. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

NOTES**VOLATILE ORGANIC COMPOUNDS****Calibration**

An initial calibration percent relative standard deviation (%RSD) exceeded the 30% quality control limit for methylene chloride (37.1%). No qualifiers were assigned on this basis since all positive results for this compound were qualified due to blank contamination.

Matrix Spike/Matrix Spike Duplicate Results

A MS/MSD was not included for this sample group. The laboratory analyzed laboratory control samples. No action was required on this basis.

Laboratory Control Sample Results

Recoveries of 1,1-dichloroethene (134%) and methylene chloride (151%) exceeded the upper quality control limit on 09/14/04 (A). No action was required on this basis.

Recoveries of 1,1-dichloroethene (131%) and methylene chloride (174%) exceeded the upper quality control limit on 09/14/04 (B). No action was required on this basis.

Compound Quantitation

Sample SBH19S11.4 was re-analyzed as a medium level soil due to the presence of target compounds above the linear calibration range of the instrument. Positive results for benzene, toluene, ethylbenzene, mp-xylene, and o-xylene were transcribed from the medium level analysis over the low-level analysis and used for data validation purposes. Data were not qualified on this basis.

Samples SBH23S43.5 and SBH24S19.0 were re-analyzed as medium level soils due to the presence of benzene above the linear calibration range of the instrument. The positive results for benzene were transcribed from the medium level analysis over the low-level analysis and used for data validation purposes. Data were not qualified on this basis.

Field Duplicate

A field duplicate pair was not included in this SDG. No action was required on this basis.

SEMIVOLATILE ORGANIC COMPOUNDS**System Monitoring Compounds**

Surrogate recoveries fell below 10% for SBH19S11.4 (50X) and SBH21S15.0 (10X). No action was taken on this basis since the non-compliant recoveries were due to the necessary dilution of the sample extracts prior to analysis. Data were not qualified on this basis.

Matrix Spike/Matrix Spike Duplicate Results

A non-client sample was used for the MS/MSD. This sample was not used for data validation purposes. Data were not qualified on this basis.


Compound Quantitation

Sample SBH19S11.4 was re-analyzed at a 50X dilution factor due to the presence of target compounds above the linear calibration range of the instrument. Positive results for naphthalene, acenaphthene, and phenanthrene were transcribed over the original sample results and used for data validation purposes. Data were not qualified on this basis.


Sample SBH21S15.0 was re-analyzed at a 10X dilution factor due to the presence of fluoranthene above the linear calibration range of the instrument. The positive result for fluoranthene was transcribed over the original sample result and used for data validation purposes. Data were not qualified on this basis.

Field Duplicate

A field duplicate pair was not included in this SDG. No action was required on this basis.


Data Reviewer - Organic

4/19/05
Date

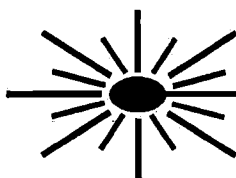

Data Reviewer - Inorganic

4/19/05
Date

Data Validation Report

**Civil and Environmental Consultants, Inc.
Wheeling Pitt Site**

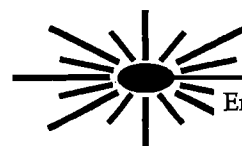
SDG# 04-5968/04-5996



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ECT.CON INC.

Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	04-5968 and 04-5996
Validation Report Date	April 19, 2005
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review Region III Modifications – June 1995
Client Name	CEC
Project Name	Wheeling Pitt
Laboratory	Pace Laboratories
Method(s) Utilized	SW-846 8260B, 8270C, 6010, 7470, 9010, EPA 350.1
Analytical Fraction	VOCs, SVOCs, Metals, Mercury, Cyanide (CN), Ammonia (NH3)

Samples/Matrix:

Date Sampled	Sample ID	Laboratory ID	VOCs	SVOCs	Metals	CN	NH3	Matrix
12/02/04	PDA2W total	5968-0412-0618	X	X	X	X	X	Aqueous
12/02/04	PDA2W dissolved	5968-0412-0618D			X			Aqueous
12/02/04	PDA3W total	5968-0412-0619	X	X	X	X	X	Aqueous
12/02/04	PDA3W dissolved	5968-0412-0619D			X			Aqueous
12/02/04	PDA4W total	5968-0412-0620	X	X	X	X	X	Aqueous
12/02/04	PDA4W dissolved	5968-0412-0620D			X			Aqueous
12/03/04	RSA-2W total	5996-0412-0763	X	X	X	X	X	Aqueous
12/03/04	RSA-2W dissolved	5996-0412-0763D			X			Aqueous
12/03/04	RSA-3W total	5996-0412-0764	X	X	X	X	X	Aqueous
12/03/04	RSA-3W dissolved	5996-0412-0764D			X			Aqueous
12/02/04	TB-120204-1	5731-0411-1927	X					Aqueous
12/03/04	TB-120304-1	5781-0411-2159	X					Aqueous

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for Wheeling Pitt consists of five aqueous field samples and two trip blanks. These samples were analyzed for the parameters as provided in the above table.

The organic findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct. The VOC and SVOC findings are based upon the assessment of the following:

- * • Data Completeness
 - * • Holding Times
 - Calibration (Initial and Continuing)
 - Blanks
 - System Monitoring Compounds (Surrogate Spikes)
 - * • Matrix Spike/Matrix Spike Duplicates
 - * • Internal Standards
 - * • Target Compound Identification
 - Compound Quantification and Reported Contract Quantitation Limits
 - * • System Performance
- * Criteria were met for this evaluation item.

The inorganic findings including general chemistry are based upon the assessment of the following:

- * • Data Completeness
- * • Holding Times
- * • Calibration (Initial and Continuing)
- Blanks
- * • ICP Interference Check samples (ICS)
- * • Laboratory Control Sample (LCS)
- * • Duplicate Sample Analysis
- * • Spike Sample Analysis
- NA • Graphite Furnace Atomic Absorption (GFAA) QC
- ND • ICP Serial Dilution

* Criteria were met for this evaluation item.

NA - Not Applicable; ND - Not Performed by the Laboratory

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines-Region III Modification for Organic and Inorganic Data Review, USEPA Region III Innovative Approaches to Data Validation Level OM2 for organics and Level IM1 for inorganics and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

MAJOR FINDINGS

VOLATILE ORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

SEMIVOLATILE ORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

INORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

MINOR FINDINGS**VOLATILE ORGANIC COMPOUNDS****1. Blanks**

The following compounds were detected in the laboratory method blank and trip blanks.

Blank	Compound	Result µg/L	Action Level µg/L	Qualification
MB 12/07	Acetonitrile	26	130	Sample results <130 – B
TB-120204-1	Acetone	4	40	Sample results <40 – B
	Acetonitrile	21	105	Sample results <105 – B
	Methylene chloride	0.7	7	Sample results <7 – B
TB-120304-1	Acetone	2	20	Sample results <20 – B
	Acetonitrile	22	110	Sample results <110 – B
	Methylene chloride	0.8	8	Sample results <8 – B

Trip blanks were not qualified on the basis of laboratory method blank contamination or contamination in other field quality control blanks.

2. Calibration

Initial and continuing calibration relative response factors (RRFs) fell below the 0.05 quality control limit on instrument HP25973. Positive results for acetonitrile, not qualified due to method blank contamination, were qualified as estimated "J" in the following samples:

TB-120204-1 TB-120304-1

A continuing calibration percent difference (%D) exceeded the 25% quality control limit on instrument HP29573 on 12/07/04 at 1045. Nondetected results for acetone were not qualified since the exceedance (26.6%) was less than 50%. Positive results for acetone were qualified as estimated "J" in the following samples:

TB-120204-1 TB-120304-1

3. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS**4. System Monitoring Compounds**

Recoveries of the surrogates nitrobenzene-d5, 2-fluorobiphenyl, 2,4,6-tribromophenol, and terphenyl-d14 exceeded the upper quality control limits for sample RSA-3W (1X). Positive results for base/neutral compounds were qualified as estimated "J".

RSA-3W

5. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

INORGANIC COMPOUNDS**6. Blanks**

The preparation blank, ICB and/or CCB exhibited contamination for the following elements:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
12/16/04	Aluminum	33.4	167	Sample results < 167 - B
	Antimony	4.2	21	Sample results < 21 - B
	Arsenic	3	15	Sample results < 15 - B
	Beryllium	0.1	0.5	Sample results < 0.5 - B
	Chromium	0.51	2.55	Sample results < 2.55 - B
	Iron	7.1	35.5	Sample results < 35.5 - B
	Molybdenum	4.4	22	Sample results < 22 - B
	Nickel	0.43	2.15	Sample results < 2.15 - B
	Potassium	27.8	139	Sample results < 139 - B
	Silver	0.7	3.5	Sample results < 3.5 - B
	Sodium	417	2085	Sample results < 2085 - B
	Vanadium	0.8	4	Sample results < 4 - B
	Thallium	2.7	13.5	Sample results < 13.5 - B

7. Qualifier

The laboratory qualifier "B" means that the associated result is between the instrument detection limit and the reporting limit. These B's were removed from the Form 1's. The B's that were placed on the Form 1's indicate that the constituent was detected in an associated blank. According to USEPA Region III data validation guidelines for inorganic compounds, the qualifier "J" means that there is uncertainty associated with the reported value.

GENERAL CHEMISTRY

No data were qualified. Therefore, there are no findings for general chemistry.

NOTES**VOLATILE ORGANIC COMPOUNDS****Calibration**

Initial calibration percent relative standard deviations (%RSDs) exceeded the 30% quality control limit on instrument HP29573 on 11/18/04. Nondetected results were not qualified since the exceedances for bromomethane (42.9%) and bromoform (33.7%) were less than 50%.

Continuing calibration %Ds exceeded the 25% quality control limit on instrument HP29573 on 12/07/04 and 1045. Nondetected results were not qualified since the exceedances for bromomethane (49.4%) and chloroethane (34.2%) were less than 50%.

Matrix Spike/Matrix Spike Duplicate

A non-client sample was used for the MS/MSD. This sample was not used as a basis for data validation. No qualifiers were required on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.

SEMIVOLATILE ORGANIC COMPOUNDS**Calibration**

Initial calibration %RSDs exceeded the 30% quality control limit on instrument M6 on 12/13/04. Nondetected results were not qualified since the exceedances for 2,4-dinitrophenol (37.25%) and 4,6-dinitro-2-methylphenol (39.11%) were less than 50%.

System Monitoring Compounds

Surrogate recoveries fell below the lower quality control limit and/or 10% in sample RSA-3W 5X. No qualifiers were assigned on this basis since the non-compliant surrogate recoveries were due to the necessary dilution of the sample extract prior to analysis.

Matrix Spike/Matrix Spike Duplicate

A MS/MSD was not extracted and analyzed with this sample set. The laboratory extracted and analyzed a laboratory control sample and duplicate. No action was required on this basis.

Compound Quantitation

Sample RSA-3W was re-analyzed at a 5X dilution factor due to the presence of naphthalene above the linear calibration range of the instrument. The result from the 5X dilution was transcribed over the 1X dilution and used for data validation purposes for this compound only. No qualifiers were assigned on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.

INORGANIC COMPOUNDS

Data Completeness

The chain-of-custody does not list the analyses to be performed. Data are not qualified on this basis.

Calibration

Laboratory reporting limit verification sample was not included in the analytical run sequence. SW 846 6010 does not require a verification sample near the reporting limit. Data are not qualified on this basis.

Matrix Spike/Matrix Spike Duplicate

For RSA-3W total matrix spike, the percent recovery was not calculated for calcium (total), potassium (total), and sodium (total) because the original sample concentration was greater than 4x the spike amount. Data are not qualified on this basis.

ICP Interference Check Sample

The ICP interference check sample was not spike with antimony, arsenic, molybdenum, potassium, selenium, sodium and thallium. Data are not qualified on this basis.

ICP Serial Dilution

No ICP serial dilution was performed. Data are not qualified on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.

GENERAL CHEMISTRY

Data Completeness


No summary quality control forms were provided for the general chemistry parameters. Quality control parameters and raw data were provided. Data are not qualified on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.


Data Reviewer - Organic

4/19/05
Date

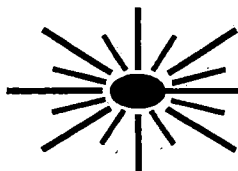

Data Reviewer - Inorganic

4/19/05
Date

Data Validation Report

**Civil and Environmental Consultants, Inc.
Wheeling Pitt Site**

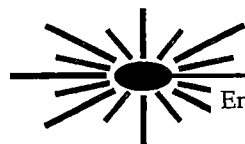
SDG# 05-0394 and 04-6288/04-6337



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Data Validation Report

SDG#	05-0394
Validation Report Date	April 19, 2005
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review Region III Modifications – June 1995
Client Name	CEC
Project Name	Wheeling Pitt
Laboratory	Pace Laboratories
Method(s) Utilized	SW-846 8260B, 8270C, 6010, 7470, 9010, EPA 350.1
Analytical Fraction	VOCs, SVOCs, Metals, Mercury, Cyanide (CN), Ammonia (NH3)

Samples/Matrix:

Date Sampled	Sample ID	Laboratory ID	VOCs	SVOCs	Metals	CN	NH3	Matrix
01/19/05	MWC3PW total	0394-0501-1594	X	X	X	X	X	Aqueous
01/19/05	MWC3PW dissolved	0394-0501-1594D			X			Aqueous
01/19/05	MWD1PW total	0394-0501-1595	X	X	X	X	X	Aqueous
01/19/05	MWD1PW dissolved	0394-0501-1595D			X			Aqueous
1/19/05	TB-011805-1	0394-0501-1596	X					Aqueous

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for Wheeling Pitt consists of two aqueous field samples and one trip blank. These samples were analyzed for the parameters as provided in the above table.

The organic findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct. The VOC and SVOC findings are based upon the assessment of the following:

- * • Data Completeness
 - * • Holding Times
 - Calibration (Initial and Continuing)
 - Blanks
 - * • System Monitoring Compounds (Surrogate Spikes)
 - * • Matrix Spike/Matrix Spike Duplicates
 - * • Laboratory Control Sample
 - * • Internal Standards
 - * • Target Compound Identification
 - Compound Quantification and Reported Contract Quantitation Limits
 - * • System Performance
- * Criteria were met for this evaluation item.

The inorganic findings including general chemistry are based upon the assessment of the following:

- * • Data Completeness
 - * • Holding Times
 - * • Calibration (Initial and Continuing)
 - Blanks
 - * • ICP Interference Check samples (ICS)
 - * • Laboratory Control Sample (LCS)
 - * • Duplicate Sample Analysis
 - * • Spike Sample Analysis
 - NA • Graphite Furnace Atomic Absorption (GFAA) QC
 - ND • ICP Serial Dilution
- * Criteria were met for this evaluation item.
- NA - Not Applicable; ND - Not Performed by the Laboratory

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines-Region III Modification for Organic and Inorganic Data Review, USEPA Region III Innovative Approaches to Data Validation Level OM2 for organics and Level IM1 for inorganics and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

MAJOR FINDINGS

VOLATILE ORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

SEMIVOLATILE ORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

INORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

MINOR FINDINGS**VOLATILE ORGANIC COMPOUNDS****1. Calibration**

An initial calibration average relative response factor (RRF) fell below the 0.05 quality control limit on instrument HP25973 on 01/27/05. The positive result for acetonitrile was qualified as estimated "J" in the following sample:

TB-011805-1

2. Blanks

The following compounds were detected in the laboratory method blank and trip blank.

Blank	Compound	Result µg/L	Action Level µg/L	Qualification
MB 01/27	Acetonitrile	35	175	Sample results <175 – B
TB-011805-1	Acetonitrile	34	170	Sample results <170 – B
	Methylene chloride	0.6	6	Sample results <6 – B

The trip blank was not qualified on the basis of laboratory method blank contamination or contamination in other field quality control blanks.

3. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS**4. Compound Quantitation**

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

INORGANIC COMPOUNDS**5. Blanks**

The preparation blank, ICB and/or CCB exhibited contamination for the following elements:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
1/25/05	Aluminum	40.5	202.5	Sample results < 202.5 - B
	Arsenic	3.8	19	Sample results < 19 - B
	Beryllium	0.1	0.5	Sample results < 0.5 - B
	Iron	11	55	Sample results < 55 - B
	Lead	1.4	7	Sample results < 7 - B
	Molybdenum	8.8	44	Sample results < 44 - B
	Nickel	0.5	2.5	Sample results < 2.5 - B
	Selenium	2	10	Sample results < 10 - B
	Silver	0.6	3	Sample results < 3 - B
	Vanadium	0.77	3.85	Sample results < 3.85 - B
	Thallium	3.7	18.5	Sample results < 18.5 - B
	Zinc	0.87	4.35	Sample results < 4.35 - B

6. Qualifier

The laboratory qualifier "B" means that the associated result is between the instrument detection limit and the reporting limit. These B's were removed from the Form 1's. The B's that were placed on the Form 1's indicate that the constituent was detected in an associated blank. According to USEPA Region III data validation guidelines for inorganic compounds, the qualifier "J" means that there is uncertainty associated with the reported value.

GENERAL CHEMISTRY

No data are qualified. There are no minor findings for general chemistry.

NOTES**VOLATILE ORGANIC COMPOUNDS****Calibration**

Initial calibration percent relative standard deviations (%RSDs) exceeded the 30% quality control limit on instrument HP25973 on 01/27/05. Nondetected results for chloromethane (31.5%) and chloroethane (32.6%) were not qualified since the exceedances were less than 50%.

Matrix Spike/Matrix Spike Duplicate Results

A non-client sample was used for the MS/MSD. This sample was not used for data validation purposes. No action was required on this basis.

Laboratory Control Sample Results

Recoveries of chloroethane (138%) and acetonitrile (130%) exceeded the upper quality control limits. No action was required on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.

SEMIVOLATILE ORGANIC COMPOUNDS

Data Completeness

The laboratory submitted revised form 1s for samples MWC3PW and MWD1PW on 04/15/05. The revised form 1s were used as the basis for data validation. The original form 1s were included in the support documentation of this report for future reference.

Calibration

Initial calibration %RSDs exceeded the 30% quality control limit on instrument M6 on 02/04/05. Nondetected results for hexachlorocyclopentadiene (49.01%) and 2,4-dinitrophenol (36.34%) were not qualified since the exceedances were less than 50%.

A continuing calibration percent difference (%D) exceeded the 25% quality control limit on instrument M6 on 02/08/05 at 0819. Nondetected results for 2,4-dinitrophenol (32.4%) were not qualified since the exceedance was less than 50%.

Matrix Spike/Matrix Spike Duplicate Results

A MS/MSD was not extracted and analyzed with this sample set. The laboratory extracted and analyzed a laboratory control sample and duplicate. No action was required on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.

INORGANIC COMPOUNDS

Data Completeness

The chain-of-custody does not list the analyses to be performed. Data are not qualified on this basis.

Calibration

Laboratory reporting limit verification sample was not included in the analytical run sequence. SW 846 6010 does not require a verification sample near the reporting limit. Data are not qualified on this basis.

Matrix Spike/Matrix Spike Duplicate

No aqueous matrix spike/matrix spike duplicate was associated with this sample delivery group. Data are not qualified on this basis.

Analytical Duplicate

No aqueous analytical duplicate was associated with this sample delivery group. Data are not qualified on this basis.

ICP Interference Check Sample

The ICP interference check sample was not spike with antimony, arsenic, molybdenum, potassium, selenium, sodium and thallium. Data are not qualified on this basis.

ICP Serial Dilution

No ICP serial dilution was performed. Data are not qualified on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.

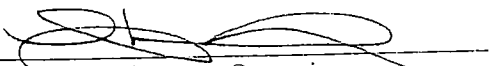
GENERAL CHEMISTRY

Data Completeness


No summary quality control forms were provided for the general chemistry parameters. Quality control parameters and raw data were provided. Data are not qualified on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.


Data Reviewer - Organic

4/19/05
Date

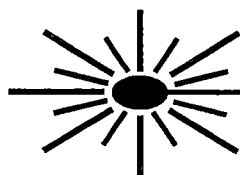

Data Reviewer - Inorganic

4/19/05
Date

Data Validation Report

**Civil and Environmental Consultants, Inc.
Wheeling Pitt Site**

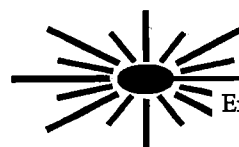
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ECT.CON INC.

Environmental and Computer
Technology Consultants**Data Validation Report**

SDG#	04-5841, 04-5866 and 04-5897
Validation Report Date	April 19, 2005
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review Region III Modifications – June 1995
Client Name	CEC
Project Name	Wheeling Pitt
Laboratory	Pace Laboratories
Method(s) Utilized	SW-846 8260B, 8270C, 6010, 7470, 9010, EPA 350.1
Analytical Fraction	VOCs, SVOCs, Metals, Mercury, Cyanide (CN), Ammonia (NH3)

Samples/Matrix:

Date Sampled	Sample ID	Laboratory ID	VOCs	SVOCs	Metals	CN	NH3	Matrix
11/19/04	GM-3TW total	5841-0411-2544	X	X	X	X	X	Aqueous
11/19/04	GM-3TW dissolved	5841-0411-2544D			X			Aqueous
11/22/04	MW-2AW total	5841-0411-2547	X	X	X	X	X	Aqueous
11/22/04	MW-2AW dissolved	5841-0411-2547D			X			Aqueous
11/22/04	P-1W total	5841-0411-2548	X	X	X	X	X	Aqueous
11/22/04	P-1W dissolved	5841-0411-2548D			X			Aqueous
11/22/04	RB-112204-1 total	5841-0411-2550	X	X	X	X	X	Aqueous
11/22/04	RB-112204-1 dissolved	5841-0411-2550D			X			Aqueous
11/23/04	TDI-1DW total	5866-0411-2663	X	X	X	X	X	Aqueous
11/23/04	TDI-1DW dissolved	5866-0411-2663D			X			Aqueous
11/19/04	TDI-1PW total	5841-0411-2545	X	X	X	X	X	Aqueous
11/19/04	TDI-1PW dissolved	5841-0411-2545D			X			Aqueous
11/23/04	TDI-1SW total	5866-0411-2664	X	X	X	X	X	Aqueous
11/23/04	TDI-1SW dissolved	5866-0411-2664D			X			Aqueous
11/23/04	TDI-1SWD total	5866-0411-2665	X	X	X	X	X	Aqueous
11/23/04	TDI-1SWD dissolved	5866-0411-2665D			X			Aqueous
11/24/04	VA-2W total	5897-0411-2858	X	X	X	X	X	Aqueous
11/24/04	VA-2W dissolved	5897-0411-2858D			X			Aqueous
11/22/04	VA-3W total	5841-0411-2549	X	X	X	X	X	Aqueous
11/22/04	VA-3W dissolved	5841-0411-2549D			X			Aqueous
11/24/04	VP-2W total	5897-0411-2859	X	X	X	X	X	Aqueous
11/24/04	VP-2W dissolved	5897-0411-2859D			X			Aqueous
11/19/04	TB-111904-1	5841-0411-2546	X					Aqueous
11/22/04	TB-112204-1	5841-0411-2551	X					Aqueous
11/23/04	TB-112304-1	5866-0411-2666	X					Aqueous
11/24/04	TB-112404-1	5897-0411-2860	X					Aqueous

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for Wheeling Pitt consists of 10 aqueous field samples, one rinsate blank and four trip blanks. These samples were analyzed for the parameters as provided in the above table.

The organic findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct. The VOC and SVOC findings are based upon the assessment of the following:

- * • Data Completeness
- * • Holding Times
- Calibration (Initial and Continuing)
- Blanks
- * • System Monitoring Compounds (Surrogate Spikes)
- * • Matrix Spike/Matrix Spike Duplicates
- * • Laboratory Control Samples
- * • Internal Standards
- * • Target Compound Identification
- Compound Quantification and Reported Contract Quantitation Limits
- * • System Performance
- * Criteria were met for this evaluation item.

The inorganic findings including general chemistry are based upon the assessment of the following:

- * • Data Completeness
- * • Holding Times
- * • Calibration (Initial and Continuing)
- Blanks
- * • ICP Interference Check samples (ICS)
- * • Laboratory Control Sample (LCS)
- * • Duplicate Sample Analysis
- Spike Sample Analysis
- NA • Graphite Furnace Atomic Absorption (GFAA) QC
- ND • ICP Serial Dilution
- * Criteria were met for this evaluation item.
- NA - Not Applicable; ND - Not Performed by the Laboratory

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines-Region III Modification for Organic and Inorganic Data Review, USEPA Region III Innovative Approaches to Data Validation Level OM2 for organics and Level IM1 for inorganics and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

MAJOR FINDINGS

VOLATILE ORGANIC COMPOUNDS

1. Calibration

Initial and continuing calibration relative response factors (RRFs) fell below the 0.05 quality control limit on instrument HP25973 on 11/18/04. Nondetected results for acetonitrile were rejected "R" in the following samples:

GM-3TW	MW-2AW	P-1W	RB-112204-1
TB-111904-1	TB-112204-1	TB-112304-1	TB-112404-1
TDI-1DW	TDI-1PW	TDI-1SW	TDI-1SWD
VA-2W	VA-3W	VP-2W	

SEMIVOLATILE ORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

INORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

MINOR FINDINGS

VOLATILE ORGANIC COMPOUNDS

2. Calibration

A continuing calibration percent difference (%D) exceeded the 25% quality control limit on instrument HP25973 on 11/30/04 at 1346. Since the exceedance for acetone (25.6%) was less than 50%, nondetected results were not qualified. The positive result for acetone was qualified as estimated "J" in the following sample:

TB-112204-1

3. Blanks

The following compounds were detected in the laboratory method blank and trip blanks.

Blank	Compound	Result µg/L	Action Level µg/L	Qualification
MB 11/30	Methylene chloride	0.5	5.0	Sample results <5 – B
TB-111904-1	Methylene chloride	0.7	7	Sample results <7 – B
TB-112204-1	Acetone	5	50	Sample results <50 – B
	Methylene chloride	0.7	7	Sample results <7 – B
TB-112304-1	Methylene chloride	0.8	8	Sample results <8 – B
TB-112404-1	Methylene chloride	1	10	Sample results <10 – B

The trip blanks were not qualified on the basis of laboratory method blank contamination or contamination in other field quality control blanks.

4. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS

5. Calibration

An initial calibration percent relative standard deviation (%RSD) exceeded the 25% quality control limit on instrument M6 on 12/07/04. Nondetected results for 2,4-dinitrophenol (66.37%) were qualified as estimated "J" in the following samples:

TDI-1DW

TDI-1SW

TDI-1SWD

6. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

INORGANIC COMPOUNDS

7. Matrix Spike

For VA-3W total matrix spike, the percent recovery for aluminum (218.8%) was greater than the high control limit. For the following sample, qualify positive results of aluminum as biased high "K".

VA-3W total

8. Blanks

The preparation blank, ICB and/or CCB exhibited contamination for the following elements:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
12/3/04	Aluminum	24.5	122.5	Sample results < 122.5 - B
	Arsenic	3.8	19	Sample results < 19 - B
	Barium	0.2	1	Sample results < 1 - B
	Calcium	14.6	73	Sample results < 73 - B
	Iron	15.4	77	Sample results < 77 - B
	Magnesium	5.9	29.5	Sample results < 29.5 - B
	Manganese	0.8	4	Sample results < 4 - B
	Molybdenum	5.7	28.5	Sample results < 28.5 - B
	Nickel	0.5	2.5	Sample results < 2.5 - B
	Selenium	3.2	16	Sample results < 16 - B
	Silver	0.4	2	Sample results < 2 - B
	Sodium	195	975	Sample results < 975 - B
	Thallium	3.3	16.5	Sample results < 16.5 - B
	Vanadium	0.5	2.5	Sample results < 2.5 - B
	Zinc	0.5	2.5	Sample results < 2.5 - B
PB QC35550MB	Aluminum	45.3	226.5	Sample results < 226.5 - B
	Chromium	0.56	2.8	Sample results < 2.8 - B
	Lead	0.98	4.9	Sample results < 4.9 - B
	Magnesium	6.5	32.5	Sample results < 32.5 - B
PB QC35551MB	Calcium	21.4	107	Sample results < 107 - B
	Manganese	1.2	6	Sample results < 6 - B

9. Qualifier

The laboratory qualifier "B" means that the associated result is between the instrument detection limit and the reporting limit. These B's were removed from the Form 1's. The B's that were placed on the Form 1's indicate that the constituent was detected in an associated blank. According to USEPA Region III data validation guidelines for inorganic compounds, the qualifier "J" means that there is uncertainty associated with the reported value.

GENERAL CHEMISTRY

No data were qualified. Therefore, there are no findings for general chemistry.

NOTES**VOLATILE ORGANIC COMPOUNDS****Calibration**

Initial calibration %RSDs exceeded the 30% quality control limit on instrument HP25973 on 11/18/04. Nondetected results for bromomethane (42.9%) and bromoform (33.7%) were not qualified since the exceedances were less than 50%.

Continuing calibration %Ds exceeded the 25% quality control limit on instrument HP25973 on 11/30/04 at 1346. Nondetected results for bromomethane (33.9%) and chloroethane (39.0%) were not qualified since the exceedances were less than 50%.

Laboratory Control Sample

Recoveries of 2-butanone (146%) and 2-hexanone (144%) exceeded the upper quality control limits. No action was required on this basis.

Field Duplicate

Calculate RPD for hits only.

Sample ID	Duplicate ID	Parameter	RPD
TDI-1SW	TDI-1SWD		
ND	ND	All Parameters	Not Applicable

SEMIVOLATILE ORGANIC COMPOUNDS**Data Completeness**

The laboratory submitted revised form 1s for samples GM-3TW, TDI-1PW, VA-2W, and VP-2W on 04/14/05. The revised form 1s were used as the basis for data validation. The original form 1s were included in the support documentation of this report for future reference.

Calibration

An initial calibration %RSD exceeded the 30% quality control limit on instrument M6 on 12/07/04. Nondetected results for hexachlorocyclopentadiene (32.1%) were not qualified since the exceedance was less than 50%.

Initial calibration %RSDs exceeded the 30% quality control limit on instrument M6 on 12/13/04. Nondetected results for 2,4-dinitrophenol (37.25%) and 4,6-dinitro-2-methylphenol (39.11%) were not qualified since the exceedances were less than 50%.

System Monitoring Compounds

Surrogate recoveries fell below 10% in sample GM-3TW 10X. No action was required on this basis since the non-compliances were due to the necessary dilution of the sample extract prior to analysis.

Matrix Spike/Matrix Spike Duplicate Results

A MS/MSD was not extracted and analyzed with this sample set. The laboratory extracted and analyzed a laboratory control sample and duplicate. No action was required on this basis.

Compound Quantitation

Sample GM-3-TW was re-analyzed at a 10X dilution factor due to the presence of naphthalene above the linear calibration range of the instrument. The result from the 10X dilution was transcribed over the original sample result and used for data validation purposes for this compound only. No qualifiers were assigned on this basis.

Field Duplicate

Calculate RPD for hits only.

Sample ID	Duplicate ID	Parameter	RPD
TDI-1SW	TDI-1SWD		
ND	ND	All Parameters	Not Applicable

INORGANIC COMPOUNDS**Data Completeness**

The chain-of-custody does not list the analyses to be performed. Data are not qualified on this basis.

Calibration

Laboratory reporting limit verification sample was not included in the analytical run sequence. SW 846 6010 does not require a verification sample near the reporting limit. Data are not qualified on this basis.

Matrix Spike/Matrix Spike Duplicate

For VP-2W dissolved matrix spike/matrix spike duplicate, the percent recovery and relative percent difference was not calculated for calcium (dissolved), iron (dissolved), potassium (dissolved), manganese (dissolved) and sodium (dissolved) because the original sample concentration was greater than 4x the spike amount. Data are not qualified on this basis.

For GM-3TM dissolved matrix spike/matrix spike duplicate, the percent recovery and relative percent difference was not calculated for calcium (dissolved), potassium (dissolved), and sodium (dissolved) because the original sample concentration was greater than 4x the spike amount. Data are not qualified on this basis.

For VA-3W total matrix spike, the percent recovery was not calculated for calcium (total), iron (total), potassium (total), manganese (total), magnesium (total) and sodium (total) because the original sample concentration was greater than 4x the spike amount. Data are not qualified on this basis.

ICP Interference Check Sample

The ICP interference check sample was not spike with antimony, arsenic, molybdenum, potassium, selenium, sodium and thallium. Data are not qualified on this basis.

ICP Serial Dilution

No ICP serial dilution was performed. Data are not qualified on this basis.

Field Duplicate

Calculate RPD for positive results only.

Sample ID	Duplicate ID	Parameter	RPD
TDI-1SW total	TDI-1SWD total		
20.2	15.1	Aluminum	28.9
2.3 U	2.3 U	Antimony	--
26.9	25.1	Arsenic	6.9
49.2	48.2	Barium	2.1
0.07 U	0.07 U	Beryllium	--
0.3 U	0.3 U	Cadmium	--
153000	150000	Calcium	2.0
0.43	0.54	Chromium	-22.7
3.3	2.3	Cobalt	35.7
0.6 U	0.6 U	Copper	--
55200	54100	Iron	2.0
1	0.8 U	Lead	--
30100	29500	Magnesium	2.0
14600	14300	Manganese	2.1
4.9	2.2	Molybdenum	76.1
0.44	0.55	Nickel	-22.2
3380	3320	Potassium	1.8
8.2	6.4	Selenium	24.7
4.4	3.7	Silver	17.3
81200	79900	Sodium	1.6
2.6 U	2.6 U	Thallium	--
0.71	0.4 U	Vanadium	--
0.4 U	0.4 U	Zinc	--
0.2 U	0.2 U	Mercury	--

Sample ID	Duplicate ID	Parameter	RPD
TDI-1SW dissolved	TDI-1SWD dissolved		
19.5	4.9 U	Aluminum	--
2.3 U	2.3 U	Antimony	--
27.3	30.7	Arsenic	-11.7
48.3	47.7	Barium	1.2
0.07 U	0.07 U	Beryllium	--
0.3 U	0.3 U	Cadmium	--
150000	150000	Calcium	0.0
0.53	0.82	Chromium	-43.0
2.3	3.2	Cobalt	-32.7
0.6 U	0.6 U	Copper	--
53200	53700	Iron	-0.9
0.83	0.8 U	Lead	--
29400	29600	Magnesium	-0.7
14400	14400	Manganese	0.0
8.1	2.9	Molybdenum	94.5
1.7	0.4 U	Nickel	--
3340	3310	Potassium	0.9
4.4	5	Selenium	-12.8
3.7	4.1	Silver	-10.3
79500	80000	Sodium	-0.6
2.6 U	4.5	Thallium	--
0.51	0.95	Vanadium	-60.3
0.4 U	0.4 U	Zinc	--
0.2U	0.2 U	Mercury	--

-- - PRD is not calculated because at least one of the sample results is nondetected.

Data are not qualified on the basis of field duplicates.

GENERAL CHEMISTRY

Data Completeness

No summary quality control forms were provided for the general chemistry parameters. Quality control parameters and raw data were provided. Data are not qualified on this basis.


Field Duplicate

Calculate RPD for positive results only.

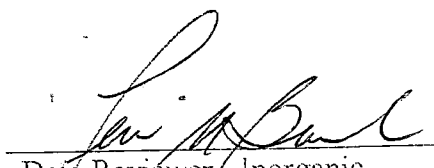
Sample ID	Duplicate ID	Parameter	RPD
TDI-1SW total	TDI-1SWD total		
12	15	Cyanide	-22.2
410	480	Ammonia	-15.7

-- - PRD is not calculated because at least one of the sample results is nondetected.

Data are not qualified on the basis of field duplicates.


Data Reviewer - Organic

4/19/05
Date

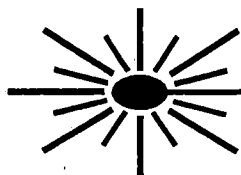

Data Reviewer - Inorganic

4/19/05
Date

Data Validation Report

**Civil and Environmental Consultants, Inc.
Wheeling Pitt Site**

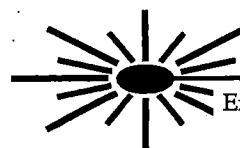
SDG# 04-6159 and 04-6222



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Data Validation Report

SDG#	04-6159
Validation Report Date	April 19, 2005
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review Region III Modifications – June 1995
Client Name	CEC
Project Name	Wheeling Pitt
Laboratory	Pace Laboratories
Method(s) Utilized	SW-846 8260B, 8270C, 6010, 7470, 9010, EPA 350.1
Analytical Fraction	VOCs, SVOCs, Metals, Mercury, Cyanide (CN), Ammonia (NH3)

Samples/Matrix:

Date Sampled	Sample ID	Laboratory ID	VOCs	SVOCs	Metals	CN	NH3	Matrix
12/08/04	MWD3D total	6159-0412-1661	X	X	X	X	X	Aqueous
12/08/04	MWD3D dissolved	6159-0412-1661D			X			Aqueous
12/09/04	MWH5W total	6159-0412-1663	X	X	X	X	X	Aqueous
12/09/04	MWH5W dissolved	6159-0412-1663D			X			Aqueous
12/08/04	P-2W total	6159-0412-1662	X	X	X	X	X	Aqueous
12/08/04	P-2W dissolved	6159-0412-1662D			X			Aqueous
12/13/04	TB-120804-1	6159-0412-1660	X					Aqueous

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for Wheeling Pitt consists of three aqueous field samples and one trip blank. These samples were analyzed for the parameters as provided in the above table.

The organic findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct. The VOC and SVOC findings are based upon the assessment of the following:

- * • Data Completeness
 - * • Holding Times
 - Calibration (Initial and Continuing)
 - Blanks
 - * • System Monitoring Compounds (Surrogate Spikes)
 - * • Matrix Spike/Matrix Spike Duplicates
 - * • Laboratory Control Samples
 - * • Internal Standards
 - * • Target Compound Identification
 - Compound Quantification and Reported Contract Quantitation Limits
 - * • System Performance
- * Criteria were met for this evaluation item.

The inorganic findings including general chemistry are based upon the assessment of the following:

- * • Data Completeness
- * • Holding Times
- * • Calibration (Initial and Continuing)
- Blanks
- * • ICP Interference Check samples (ICS)
- * • Laboratory Control Sample (LCS)
- * • Duplicate Sample Analysis
- * • Spike Sample Analysis
- NA • Graphite Furnace Atomic Absorption (GFAA) QC
- ND • ICP Serial Dilution

* Criteria were met for this evaluation item.

NA - Not Applicable; ND - Not Performed by the Laboratory

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines-Region III Modification for Organic and Inorganic Data Review, USEPA Region III Innovative Approaches to Data Validation Level OM2 for organics and Level IM1 for inorganics and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

MAJOR FINDINGS

VOLATILE ORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

SEMIVOLATILE ORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

INORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

MINOR FINDINGS**VOLATILE ORGANIC COMPOUNDS****1. Calibration**

Initial and continuing calibration relative response factors (RRFs) fell below the 0.05 quality control limit on instrument HP25973 on 12/13/04, 12/14/04 and 12/16/04. Positive results for acetonitrile not qualified due to blank contamination were qualified as estimated "J" in the following sample:

TB120804-1

An initial calibration percent relative standard deviation (%RSD) exceeded the 30% quality control limit on instrument HP25973 on 12/13/04. Since the exceedance was greater than 50%, nondetected results for bromoform (50.4%) were qualified as estimated "UJ" in the following samples:

MWD3D

MWH5W

P-2W

TB-120804-1

2. Blanks

The following compounds were detected in the laboratory method blanks and trip blank.

Blank	Compound	Result µg/L	Action Level µg/L	Qualification
MB 12/14	Acetonitrile	26	130	Sample results <130 – B
MB 12/16	Acetonitrile	26	130	Sample results <130 – B
TB-120804-1	Acetone	1	10	Sample results <10 – B
	Acetonitrile	26	130	Sample results <130 – B
	Methylene chloride	0.8	8	Sample results <8 – B

The trip blank was not qualified on the basis of laboratory method blank contamination or contamination in other field quality control blanks.

3. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS**4. Compound Quantitation**

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

INORGANIC COMPOUNDS**5. Blanks**

The preparation blank, ICB and/or CCB exhibited contamination for the following elements:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
12/169/04	Aluminum	33.4	167	Sample results < 148 - B
	Antimony	4.2	21	Sample results < 13.5 - B
	Arsenic	4.4	22	Sample results < 12.5 - B
	Barium	0.29	1.45	Sample results < 1 - B
	Beryllium	0.2	1	Sample results < 0.5 - B
	Calcium	21.8	109	Sample results < 112.5 - B
	Chromium	0.6	3	Sample results < 6 - B
	Copper	1	5	Sample results < 6 - B
	Iron	9.1	45.5	Sample results < 121.5 - B
	Lead	0.8	4	Sample results < 9.5 - B
	Magnesium	5.9	29.5	Sample results < 31.5 - B
	Molybdenum	8.1	40.5	Sample results < 49 - B
	Nickel	1.1	5.5	Sample results < 4.3 - B
	Potassium	42.9	214.5	Sample results < 6 - B
	Silver	0.8	4	Sample results < 6 - B
	Sodium	373	1865	Sample results < 6 - B
	Vanadium	1	5	Sample results < 2.65 - B
	Thallium	6.8	34	Sample results < 2.25 - B

6. Qualifier

The laboratory qualifier "B" means that the associated result is between the instrument detection limit and the reporting limit. These B's were removed from the Form 1's. The B's that were placed on the Form 1's indicate that the constituent was detected in an associated blank. According to USEPA Region III data validation guidelines for inorganic compounds, the qualifier "J" means that there is uncertainty associated with the reported value.

GENERAL CHEMISTRY

No data were qualified. Therefore, there are no minor findings for general chemistry.

NOTES**VOLATILE ORGANIC COMPOUNDS****Calibration**

An initial calibration %RSD exceeded the 30% quality control limit on instrument HP25973 on 12/13/04. Nondetected results for dibromochloromethane (30.1%) were not qualified since the exceedance was less than 50%.

A continuing calibration %D exceeded the 25% quality control limit on instrument HP25973 on 12/14/04 at 1232. Nondetected results for chloromethane (26.6%) were not qualified since the exceedances were less than 50%.

Matrix Spike/Matrix Spike Duplicate Results

A non-client sample was used for the MS/MSD. This sample was not used as a basis for data validation. No action was required on this basis.

Compound Quantitation

Sample MWH5W was re-analyzed at a 5X dilution factor due to the presence of benzene above the linear calibration range of the instrument. The result from the 5X dilution was transcribed over the original sample result for this compound only and used for data validation purposes. No qualifiers were assigned on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.

SEMIVOLATILE ORGANIC COMPOUNDS**Calibration**

An initial calibration %RSD exceeded the 30% quality control limit on instrument M6 on 12/16/04. Nondetected results for 2,4-dinitrophenol (37.87%) were not qualified since the exceedance was less than 50%.

System Monitoring Compounds

Surrogate recoveries fell below 10% in sample MWH5W. No action was required on this basis since the non-compliances were due to the necessary dilution of the sample extract prior to analysis.

Matrix Spike/Matrix Spike Duplicate Results

A MS/MSD was not extracted and analyzed with this sample set. The laboratory extracted and analyzed a laboratory control sample and duplicate. No action was required on this basis.

Compound Quantitation

Sample MWH5W was re-analyzed at a 10X dilution factor due to the presence of phenol above the linear calibration range of the instrument. The result from the 10X dilution was transcribed over the original sample result for this compound only and used for data validation purposes. No qualifiers were assigned on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.

INORGANIC COMPOUNDS**Data Completeness**

The chain-of-custody does not list the analyses to be performed. Data are not qualified on this basis.

Calibration

Laboratory reporting limit verification sample was not included in the analytical run sequence. SW 846 6010 does not require a verification sample near the reporting limit. Data are not qualified on this basis.

Matrix Spike/Matrix Spike Duplicate

For P-2W matrix spike, the percent recovery and relative percent difference was not calculated for calcium (total), potassium (total), magnesium (total), manganese (total) and sodium (total) because the original sample concentration was greater than 4x the spike amount. Data are not qualified on this basis.

ICP Interference Check Sample

The ICP interference check sample was not spike with antimony, arsenic, molybdenum, potassium, selenium, sodium and thallium. Data are not qualified on this basis.

ICP Serial Dilution

No ICP serial dilution was performed. Data are not qualified on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.

GENERAL CHEMISTRY

Data Completeness

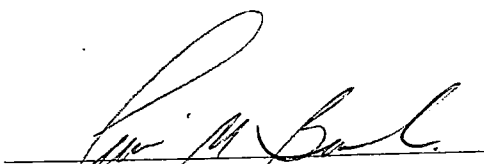
No summary quality control forms were provided for the general chemistry parameters. Quality control parameters and raw data were provided. Data are not qualified on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.


Data Reviewer - Organic

4/19/05
Date

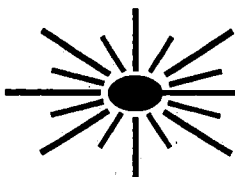

Data Reviewer - Inorganic

4/19/05
Date

Data Validation Report

**Civil and Environmental Consultants, Inc.
Wheeling Pitt Site**

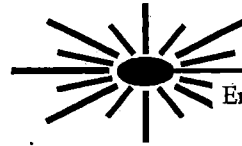
SDG# 04-6158 and 04-6462



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Data Validation Report

SDG#	04-6158
Validation Report Date	April 19, 2005
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review Region III Modifications – June 1995
Client Name	CEC
Project Name	Wheeling Pitt
Laboratory	Pace Laboratories
Method(s) Utilized	SW-846 8260B, 8270C, 6010, 7471, 9010, EPA 350.1, 9014, 9030, 9045, 1010
Analytical Fraction	VOCs, SVOCs, Metals, Mercury, Cyanide (CN), Ammonia (NH ₃), Reactive Cyanide, Reactive Sulfide, pH, Flash Point

Samples/Matrix:

Date Sampled	Sample ID	Laboratory ID	VOCs	SVOCs	Metals	CN	NH ₃	HW Charac.	Matrix
12/10/04	SPH1S1.0	6158-0412-1658	X	X	X	X	X	X	Solid
12/10/04	SPH2S1.0	6158-0412-1659	X	X	X	X	X	X	Solid

HW Charac. - Hazardous Waste Characteristics: Reactive Cyanide, Reactive Sulfide, pH and Flash Point

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for Wheeling Pitt consists of two solid field samples. These samples were analyzed for the parameters as provided in the above table.

The organic findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct. The VOC and SVOC findings are based upon the assessment of the following:

- * • Data Completeness
 - Holding Times
 - Calibration (Initial and Continuing)
 - Blanks
 - * • System Monitoring Compounds (Surrogate Spikes)
 - * • Matrix Spike/Matrix Spike Duplicates
 - * • Laboratory Control Samples
 - * • Internal Standards
 - * • Target Compound Identification
 - Compound Quantification and Reported Contract Quantitation Limits
 - * • System Performance
- * Criteria were met for this evaluation item.

The inorganic findings including general chemistry are based upon the assessment of the following:

- * • Data Completeness
 - * • Holding Times
 - * • Calibration (Initial and Continuing)
 - Blanks
 - * • ICP Interference Check samples (ICS)
 - * • Laboratory Control Sample (LCS)
 - * • Duplicate Sample Analysis
 - * • Spike Sample Analysis
 - NA • Graphite Furnace Atomic Absorption (GFAA) QC
 - ND • ICP Serial Dilution
- * Criteria were met for this evaluation item.
- NA - Not Applicable; ND - Not Performed by the Laboratory

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines-Region III Modification for Organic and Inorganic Data Review, USEPA Region III Innovative Approaches to Data Validation Level OM2 for organics and Level IM1 for inorganics and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

MAJOR FINDINGS

VOLATILE ORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

SEMIVOLATILE ORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

INORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

MINOR FINDINGS**VOLATILE ORGANIC COMPOUNDS****1. Calibration**

An initial calibration percent relative standard deviation (%RSDs) exceeded the 30% quality control limit on instrument HP25973 on 12/13/04. Nondetected results for bromoform (50.4%) were qualified as estimated "UJ" in the following samples:

SPH1S1.0

SPH2S1.0

A continuing calibration percent difference (%D) exceeded the 25% quality control limit on instrument HP25973 on 12/22/04 at 1729. Since the exceedance for bromomethane (43.9%) was less than 50% nondetected results were not qualified. The positive result for bromomethane was qualified as estimated "J" in the following sample:

SPH1S1.0

2. Blanks

The laboratory method blanks exhibited contamination for the following parameters:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
MB 12/22	Acetonitrile	8200	41000	Sample results <41000 - B
	2-Butanone	140	1400	Sample results <1400 - B
MB 12/23	Bromomethane	76	380	Sample results <380 - B
	Acetone	46	460	Sample results <460 - B
	Acetonitrile	4800	39000	Sample results <39000 - B
	2-Butanone	100	1000	Sample results <1000 - B

3. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS**4. Holding Time**

Samples were extracted ten days after sample collection. This is outside the Region III guideline of seven days from collection to extraction. Positive and nondetected sample results were qualified as estimated "J" and "UJ" in the following samples:

SPH1S1.0

SPH2S1.0

5. Calibration

An initial calibration %RSD exceeded the 30% quality control limit on instrument M6 on 12/30/04. Nondetected results for 2,4-dinitrophenol (51.44%) were qualified as estimated "UJ" in the following samples:

SPH1S1.0

SPH2S1.0

6. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

INORGANIC COMPOUNDS**7. Blanks**

The preparation blank, ICB and/or CCB exhibited contamination for the following elements:

Blank	Compound	Maximum Concentration (ppm)	Action Level (ppm)	Action*
12/17/04	Aluminum	3.5	17.5	Sample results < 17.5 - B
	Antimony	0.49	2.45	Sample results < 2.45 - B
	Arsenic	0.35	1.75	Sample results < 1.75 - B
	Barium	0.026	0.13	Sample results < 0.13 - B
	Beryllium	0.002	0.01	Sample results < 0.01 - B
	Calcium	0.49	2.45	Sample results < 2.45 - B
	Chromium	0.043	0.215	Sample results < 0.215 - B
	Cobalt	0.012	0.06	Sample results < 0.06 - B
	Copper	0.036	0.18	Sample results < 0.18 - B
	Iron	4.2	21	Sample results < 21 - B
	Lead	0.12	0.6	Sample results < 0.6 - B
	Magnesium	0.077	0.385	Sample results < 0.385 - B
	Manganese	0.046	0.23	Sample results < 0.23 - B
	Molybdenum	0.16	0.8	Sample results < 0.8 - B
	Nickel	0.015	0.075	Sample results < 0.075 - B
	Potassium	5.2	26	Sample results < 26 - B

Blank	Compound	Maximum Concentration (ppm)	Action Level (ppm)	Action*
	Selenium	0.02	0.1	Sample results < 0.1 - B
	Silver	0.043	0.215	Sample results < 0.215 - B
	Sodium	115	575	Sample results < 575 - B
	Thallium	0.044	0.22	Sample results < 0.22 - B
	Vanadium	0.1	0.5	Sample results < 0.5 - B
	Zinc	0.009	0.045	Sample results < 0.045 - B

* Results are dry-weight adjusted when applying to a sample for qualification.

8. Qualifier

The laboratory qualifier "B" means that the associated result is between the instrument detection limit and the reporting limit. These B's were removed from the Form 1's. The B's that were placed on the Form 1's indicate that the constituent was detected in an associated blank. According to USEPA Region III data validation guidelines for inorganic compounds, the qualifier "J" means that there is uncertainty associated with the reported value.

GENERAL CHEMISTRY

No data were qualified. Therefore, there are no minor findings for general chemistry.

NOTES

VOLATILE ORGANIC COMPOUNDS

Calibration

An initial calibration %RSD exceeded the 30% quality control limit on instrument HP25973 on 12/13/04. Nondetected results for dibromochloromethane (30.1%) were not qualified since the exceedance was less than 50%.

Continuing calibration %Ds exceeded the 25% quality control limit on instrument HP25973 on 12/22/04 at 1729. Nondetected results for bromomethane (43.9%), chloromethane (34.1%), and acetone (33.0%) were not qualified since the exceedances were less than 50%.

Initial and continuing calibration relative response factors (RRFs) fell below the 0.05 quality control limit on instrument HP25973 on 12/13/04 and 12/22/04. No qualifiers were assigned on this basis since results for acetonitrile were qualified due to blank contamination.

Matrix Spike/Matrix Spike Duplicate Results

MS/MSDs were not analyzed with this sample set. The laboratory analyzed laboratory control samples. No action was required on this basis.

Laboratory Control Samples

Recoveries of vinyl chloride (137%), 1,1,1-trichloroethane (137%), carbon tetrachloride (138%), and dibromochloromethane (136%) exceeded the upper quality control limit in the LCS analyzed on 12/22/04. No qualifiers were assigned on this basis.

Recoveries of vinyl chloride (132%), acetone (156%), 1,1,1-trichloroethane (138%), carbon tetrachloride (147%), and dibromochloromethane (150%) exceeded the upper quality control limit in the LCS analyzed on 12/23/04. No qualifiers were assigned on this basis.

Compound Quantitation

Sample SPH1S1.0 was analyzed and reported as a medium level soil due to the presence of target compounds. This accounts for the elevated reporting limits for this sample. The sample was re-analyzed at a 1000X dilution factor due to the presence of benzene above the linear calibration range of the instrument. The result for benzene was transcribed over the original sample result and used for data validation purposes for this compound only. No qualifiers were assigned on this basis.

Sample SPH2S1.0 was analyzed and reported as a medium level soil due to the presence of target compounds. This accounts for the elevated reporting limits for this sample. The sample was re-analyzed at a 1000X dilution factor due to the presence of benzene and toluene above the linear calibration range of the instrument. The result for benzene and toluene were transcribed over the original sample results and used for data validation purposes for these compounds only. No qualifiers were assigned on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.

SEMIVOLATILE ORGANIC COMPOUNDS**Calibration**

Initial calibration %RSDs exceeded the 30% quality control limit on instrument M6 on 12/30/04. Nondetected results for hexachlorocyclopentadiene (39.65%) and 4,6-dinitro-2-methylphenol (30.12%) were not qualified since the exceedances were less than 50%.

Blanks

The laboratory method blanks exhibited contamination for the following parameter:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)
MB 12/20	Naphthalene	330	1650

No qualifiers were assigned on this basis since the concentration of naphthalene in the samples were above the specified action level. This is noted for completeness only.

System Monitoring Compounds

Surrogate recoveries were below 10% for SPH1S1.0 and SPH2S1.0. No qualifiers were assigned on this basis since the non-compliances were due to the necessary dilution of the sample extracts prior to analysis.

Recovery of phenol-d5 exceeded the upper quality control limit in the laboratory method blank. Recovery of 2,4,6-tribromophenol exceeded the upper quality control limit in the laboratory control sample. This is noted for completeness only. No qualifiers were assigned on this basis.

Matrix Spike/Matrix Spike Duplicate Results

A non-client MS/MSD was extracted with this sample set. The sample was not used as a basis for data validation. No action was required on this basis.

Compound Quantitation

Sample SPH1S1.0 was analyzed and reported at a 500X dilution factor due to the presence of target compounds. This accounts for the elevated reporting limits for this sample. No qualifiers were assigned on this basis.

Sample SPH2S1.0 was analyzed and reported at a 500X dilution factor due to the presence of target compounds. This accounts for the elevated reporting limits for this sample. The sample was re-analyzed at a 5000X dilution factor due to the presence of naphthalene and phenanthrene above the linear calibration range of the instrument. Results for these compounds only were transcribed from the 5000X over the original sample results and used for data validation purposes. No qualifiers were assigned on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.

INORGANIC COMPOUNDS**Data Completeness**

The chain-of-custody does not list the analyses to be performed. Data are not qualified on this basis.

Calibration

Laboratory reporting limit verification sample was not included in the analytical run sequence. SW 846 6010 does not require a verification sample near the reporting limit. Data are not qualified on this basis.

Analytical Duplicate

No analytical duplicate was associated with this sample delivery group. Data are not qualified on this basis.

Matrix Spike/Matrix Spike Duplicate

No matrix spike/matrix spike duplicate was associated with this sample delivery group. Data are not qualified on this basis.

ICP Interference Check Sample

The ICP interference check sample was not spike with antimony, arsenic, molybdenum, potassium, selenium, sodium and thallium. Data are not qualified on this basis.

ICP Serial Dilution

No ICP serial dilution was performed. Data are not qualified on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.

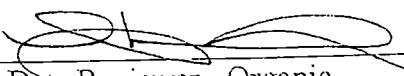
GENERAL CHEMISTRY

Data Completeness


No summary quality control forms were provided for the general chemistry parameters. Quality control parameters and raw data were provided. Data are not qualified on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.


Data Reviewer - Organic

4/19/05
Date

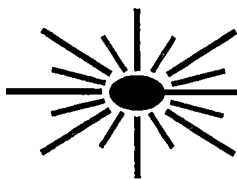

Data Reviewer - Inorganic

4/19/05
Date

Data Validation Report

**Civil and Environmental Consultants, Inc.
Wheeling Pitt Site**

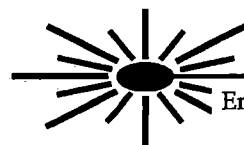
SDG# 05-0149 and 05-0267



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Data Validation Report

SDG#	05-0149
Validation Report Date	April 19, 2005
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review Region III Modifications – June 1995
Client Name	CEC
Project Name	Wheeling Pitt
Laboratory	Pace Laboratories
Method(s) Utilized	SW-846 8260B, 8270C, 6010, 7470, 9010, EPA 350.1
Analytical Fraction	VOCs, SVOCs, Metals, Mercury, Cyanide (CN), Ammonia (NH3)

Samples/Matrix:

Date Sampled	Sample ID	Laboratory ID	VOCs	SVOCs	Metals	CN	NH3	Matrix
01/04/05	MWB3DW total	0149-0501-0562	X	X	X	X	X	Aqueous
01/04/05	MWB3DW dissolved	0149-0501-0562D			X			Aqueous
01/04/05	MWB3DW total	0149-0501-0561	X	X	X	X	X	Aqueous
01/04/05	MWB3DW dissolved	0149-0501-0561D			X			Aqueous
01/04/05	R310W total	0149-0501-0560	X	X	X	X	X	Aqueous
01/04/05	R310W dissolved	0149-0501-0560D			X			Aqueous
1/19/05	TB-010405-1	0149-0501-0563	X					Aqueous

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for Wheeling Pitt consists of three aqueous field samples and one trip blank. These samples were analyzed for the parameters as provided in the above table.

The organic findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct. The VOC and SVOC findings are based upon the assessment of the following:

- * • Data Completeness
 - * • Holding Times
 - Calibration (Initial and Continuing)
 - Blanks
 - * • System Monitoring Compounds (Surrogate Spikes)
 - * • Matrix Spike/Matrix Spike Duplicates
 - * • Laboratory Control Samples
 - * • Internal Standards
 - * • Target Compound Identification
 - Compound Quantification and Reported Contract Quantitation Limits
 - * • System Performance
- * Criteria were met for this evaluation item.

The inorganic findings including general chemistry are based upon the assessment of the following:

- * • Data Completeness
- * • Holding Times
- * • Calibration (Initial and Continuing)
- Blanks
- * • ICP Interference Check samples (ICS)
- * • Laboratory Control Sample (LCS)
- * • Duplicate Sample Analysis
- * • Spike Sample Analysis
- NA • Graphite Furnace Atomic Absorption (GFAA) QC
- ND • ICP Serial Dilution

* Criteria were met for this evaluation item.

NA - Not Applicable; ND - Not Performed by the Laboratory

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines-Region III Modification for Organic and Inorganic Data Review, USEPA Region III Innovative Approaches to Data Validation Level OM2 for organics and Level IM1 for inorganics and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

MAJOR FINDINGS

VOLATILE ORGANIC COMPOUNDS

1. Calibration

Initial and continuing calibration relative response factors (RRFs) fell below the 0.05 quality control limit on instrument HP25973 on 01/14/05. Nondetected results for chloroethane were rejected "R" in the following samples:

MWB3DW

MWB3IW

R310W

TB010405-01

SEMIVOLATILE ORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

INORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

MINOR FINDINGS**VOLATILE ORGANIC COMPOUNDS****2. Blanks**

The following compounds were detected in the laboratory method blanks and trip blank.

Blank	Compound	Result µg/L	Action Level µg/L	Qualification
MB 01/14	Acetonitrile	30	150	Sample results <150 – B
	Methylene chloride	0.8	8	Sample results <8 – B
TB010405-01	Acetonitrile	27	135	Sample results <135 – B
	Methylene chloride	3	30	Sample results <30 – B

The trip blank was not qualified on the basis of laboratory method blank contamination or contamination in other field quality control blanks.

3. Calibration

A continuing calibration RRF fell below the 0.05 quality control limit on instrument HP25973 on 01/14/05 at 1842 for acetonitrile. Positive results not qualified due to blank contamination were qualified as estimated "J" in the following sample:

TB010405-01

4. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS**5. Blanks**

The following compounds were detected in the laboratory method blank.

Blank	Compound	Result µg/L	Action Level µg/L	Qualification
MB 01/10	4-Nitrophenol	1.2	6	Sample results <6 – B

6. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

INORGANIC COMPOUNDS

7. Blanks

The preparation blank, ICB and/or CCB exhibited contamination for the following elements:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
1/10/05	Aluminum	18	90	Sample results < 90 - B
	Arsenic	4.3	21.5	Sample results < 21.5 - B
	Calcium	1.3	6.5	Sample results < 6.5 - B
	Chromium	0.4	2	Sample results < 2 - B
	Lead	1	5	Sample results < 5 - B
	Molybdenum	9.3	46.5	Sample results < 46.5 - B
	Nickel	0.6	3	Sample results < 3 - B
	Potassium	15.6	78	Sample results < 78 - B
	Selenium	2.8	14	Sample results < 14 - B
	Thallium	9.8	49	Sample results < 49 - B
	Zinc	11.7	58.5	Sample results < 58.5 - B
1/11/05	Zinc	5.2	26	Sample results < 26 - B

8. Qualifier

The laboratory qualifier "B" means that the associated result is between the instrument detection limit and the reporting limit. These B's were removed from the Form 1's. The B's that were placed on the Form 1's indicate that the constituent was detected in an associated blank. According to USEPA Region III data validation guidelines for inorganic compounds, the qualifier "J" means that there is uncertainty associated with the reported value.

GENERAL CHEMISTRY

No data are qualified. There are no minor findings for general chemistry.

NOTES

VOLATILE ORGANIC COMPOUNDS

Calibration

An initial calibration percent relative standard deviation (%RSD) exceeded the 30% quality control limit on instrument HP25973 on 01/14/05. Nondetected results for acetonitrile (47.6%) were not affected since the exceedance was less than 50%. Positive results for acetonitrile were qualified due to more severe technical non-compliances.

An initial calibration %RSD exceeded the 30% quality control limit on instrument HP25973 on 01/14/05. Nondetected results for bromoform (34%) were not affected since the exceedance was less than 50%.

Matrix Spike/Matrix Spike Duplicate Results

A non-client sample was used for the MS/MSD. This sample was not used as a basis for data validation. No action was required on this basis.

Laboratory Control Sample Results

Recoveries of 1,1-dichloroethene (141%) and acetonitrile (147%) exceeded the upper quality control limit on 01/14/05. No action was required on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.

SEMIVOLATILE ORGANIC COMPOUNDS

Calibration

Initial calibration %RSDs exceeded the 30% quality control limit on instrument M6 on 01/19/05. Nondetected results for hexachlorocyclopentadiene (33.46%), 2,4-dinitrophenol (47.27), and 4,6-dinitro-2-methylphenol (30.82%) were not affected since the exceedances were less than 50%.

Matrix Spike/Matrix Spike Duplicate Results

A MS/MSD was not extracted and analyzed with this sample set. The laboratory extracted and analyzed a laboratory control sample and duplicate. No action was required on this basis.

Compound Quantitation

In order to meet client requested reporting limits for nondetected results, the laboratory applied a 10X factor to the sample form 1s. However, this caused positive results to be reported at a factor 10X higher than the actual concentration. In most cases this error was corrected by the laboratory, however, in some cases corrections were made to the form 1s by the reviewer. Also, in order to maintain consistency, the reviewer qualified positive results below the form 1 reporting limits as estimated "J".

Sample	Parameter	Reported Result	Reviewer Revision
MWB3DW	Pyrene	6 J	0.58 J
	Chrysene	6 J	0.55 J

Field Duplicate

No field duplicates were associated with this sample delivery group.

INORGANIC COMPOUNDS

Data Completeness

The chain-of-custody does not list the analyses to be performed. Data are not qualified on this basis.

Calibration

Laboratory reporting limit verification sample was not included in the analytical run sequence. SW 846 6010 does not require a verification sample near the reporting limit. Data are not qualified on this basis.

Matrix Spike/Matrix Spike Duplicate

For R310W matrix spike, the percent recovery was not calculated for calcium (total), potassium (total) and sodium (total) because the original sample concentration was greater than 4x the spike amount. Data are not qualified on this basis.

ICP Interference Check Sample

The ICP interference check sample was not spike with antimony, arsenic, molybdenum, potassium, selenium, sodium and thallium. Data are not qualified on this basis.

ICP Serial Dilution

No ICP serial dilution was performed. Data are not qualified on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.

GENERAL CHEMISTRY

Data Completeness

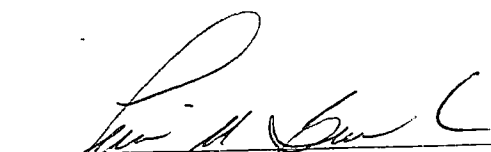
No summary quality control forms were provided for the general chemistry parameters. Quality control parameters and raw data were provided. Data are not qualified on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.


Data Reviewer - Organic

4/19/05
Date

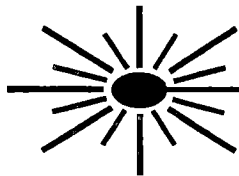

Data Reviewer - Inorganic

4/19/05
Date

Data Validation Report

**Civil and Environmental Consultants, Inc.
Wheeling Pitt Site**

SDG# 04-5731/04-5781



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Data Validation Report

SDG#	04-5731 and 04-5781
Validation Report Date	April 19, 2005
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review Region III Modifications – June 1995
Client Name	CEC
Project Name	Wheeling Pitt
Laboratory	Pace Laboratories
Method(s) Utilized	SW-846 8260B, 8270C, 6010, 7471, 9010, EPA 350.1
Analytical Fraction	VOCs, SVOCs, Metals, Mercury, Cyanide (CN), Ammonia (NH3)

Samples/Matrix:

Date Sampled	Sample ID	Laboratory ID	VOCs	SVOCs	Metals	CN	NH3	Matrix
11/16/04	MWC1IW total	5731-0411-1926	X	X	X	X	X	Aqueous
11/16/04	MWC1IW dissolved	5731-0411-1926D			X			Aqueous
11/17/04	MWC2PW total	5781-0411-2156	X	X	X	X	X	Aqueous
11/17/04	MWC2PW dissolved	5781-0411-2156D			X			Aqueous
11/18/04	MWD1IW total	5781-0411-2158	X	X	X	X	X	Aqueous
11/18/04	MWD1IW dissolved	5781-0411-2158D			X			Aqueous
11/18/04	MWD3IW total	5781-0411-2157	X	X	X	X	X	Aqueous
11/18/04	MWD3IW dissolved	5781-0411-2157D			X			Aqueous
11/17/04	VA-1W total	5781-0411-2155	X	X	X	X	X	Aqueous
11/17/04	VA-1W dissolved	5781-0411-2155D			X			Aqueous
12/15/04	TB-111604-1	5731-0411-1927	X					Aqueous
12/17/04	TB-111704-1	5781-0411-2159	X					Aqueous

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for Wheeling Pitt consists of five aqueous field samples and two trip blanks. These samples were analyzed for the parameters as provided in the above table.

The organic findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct. The VOC and SVOC findings are based upon the assessment of the following:

- * • Data Completeness
- * • Holding Times
- Calibration (Initial and Continuing)
- Blanks
- * • System Monitoring Compounds (Surrogate Spikes)
- * • Matrix Spike/Matrix Spike Duplicates
- * • Internal Standards
- * • Laboratory Control Samples
- * • Target Compound Identification
- Compound Quantification and Reported Contract Quantitation Limits
- * • System Performance
- * Criteria were met for this evaluation item.

The inorganic findings including general chemistry are based upon the assessment of the following:

- * • Data Completeness
- * • Holding Times
- * • Calibration (Initial and Continuing)
- Blanks
- * • ICP Interference Check samples (ICS)
- * • Laboratory Control Sample (LCS)
- * • Duplicate Sample Analysis
- Spike Sample Analysis
- NA • Graphite Furnace Atomic Absorption (GFAA) QC
- ND • ICP Serial Dilution

* Criteria were met for this evaluation item.

NA - Not Applicable; ND - Not Performed by the Laboratory

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines-Region III Modification for Organic and Inorganic Data Review, USEPA Region III Innovative Approaches to Data Validation Level OM2 for organics and Level IM1 for inorganics and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

MAJOR FINDINGS**VOLATILE ORGANIC COMPOUNDS****1. Calibration**

Initial and continuing calibration relative response factors (RRFs) fell below the 0.05 quality control limit on instrument HP25973 on 11/18/04 and 11/22/04. Nondetected results for acetonitrile were rejected "R" in the following samples:

MWC1IW
VA-1W

MWC2PW
TB-111704-1

MWD1IW

MWD3IW

SEMIVOLATILE ORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

INORGANIC COMPOUNDS

No data were rejected; therefore, there were no major findings.

MINOR FINDINGS**VOLATILE ORGANIC COMPOUNDS****2. Calibration**

Initial and continuing calibration RRFs fell below the 0.05 quality control limit on instrument HP25973 on 11/18/04 and 11/22/04. The positive result for acetonitrile was qualified as estimated "J" in the following sample:

TB111604-01

A continuing calibration percent difference (%D) exceeded the 25% quality control limit on instrument HP25973 on 11/22/04 at 1109. Since the exceedance for acetone (30.8%) was less than 50%, nondetected results were not qualified. The positive result for acetone was qualified as estimated "J" in the following sample:

TB111604-01

3. Blanks

The following compounds were detected in the trip blanks.

Blank	Compound	Result µg/L	Action Level µg/L	Qualification
TB111604-01	Acetone	3	30	Sample results <30 – B
	Acetonitrile	3	15	Sample results <15 – B
	Methylene chloride	2	20	Sample results <20 – B
	2-Butanone	1	10	Sample results <10 – B
TB111704-1	Methylene chloride	1	10	Sample results <10 – B

The trip blanks were not qualified on the basis of laboratory method blank contamination or contamination in other field quality control blanks.

4. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS

5. Calibration

An initial calibration percent relative standard deviation (%RSD) exceeded the 30% quality control limit on instrument M6 on 12/07/04. Nondetected results for 2,4-dinitrophenol (66.37%) were qualified as estimated "UJ" in the following samples:

MWC1IW
VA-1W

MWC2PW

MWD1IW

MWD3IW

6. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

INORGANIC COMPOUNDS

7. Matrix Spike

For MWD3IW dissolved matrix spike, the percent recovery for mercury (52.8%) was less than the low control limit. For the following sample, qualify positive results of mercury as biased low "L" and nondetected results as biased low "UL".

MWD3IW dissolved

8. Blanks

The preparation blank, ICB and/or CCB exhibited contamination for the following elements:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
11/22/04	Antimony	3.2	16	Sample results < 16 - B
	Barium	0.3	1.5	Sample results < 1.5 - B
	Calcium	11.9	59.5	Sample results < 59.5 - B
	Copper	3	15	Sample results < 15 - B
	Iron	13.2	66	Sample results < 66 - B
	Lead	1.8	9	Sample results < 9 - B
	Manganese	0.5	2.5	Sample results < 2.5 - B
	Molybdenum	11.3	56.5	Sample results < 56.5 - B
	Nickel	0.7	3.5	Sample results < 3.5 - B
	Potassium	32.8	164	Sample results < 164 - B
	Selenium	5	25	Sample results < 25 - B
	Vanadium	0.72	3.6	Sample results < 3.6 - B
11/23/04	Calcium	10.3	51.5	Sample results < 51.5 - B

9. Qualifier

The laboratory qualifier "B" means that the associated result is between the instrument detection limit and the reporting limit. These B's were removed from the Form 1's. The B's that were placed on the Form 1's indicate that the constituent was detected in an associated blank. According to USEPA Region III data validation guidelines for inorganic compounds, the qualifier "J" means that there is uncertainty associated with the reported value.

GENERAL CHEMISTRY

No data were qualified. Therefore, there are no findings for general chemistry.

NOTES

VOLATILE ORGANIC COMPOUNDS

Calibration

An initial calibration %RSD exceeded the 30% quality control limit on instrument HP25973 on 11/18/04. Nondetected results for bromoform (31.6%) were not qualified since the exceedance was less than 50%.

A continuing calibration %D exceeded the 25% quality control limit on instrument HP25973 on 11/22/04 at 1109. Nondetected results for chloroethane (32.8%) were not qualified since the exceedance was less than 50%.

Matrix Spike/Matrix Spike Duplicate Results

A non-client sample was used for the MS/MSD. This sample was not used for data validation purposes. No action was required on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.

SEMIVOLATILE ORGANIC COMPOUNDS**Calibration**

An initial calibration %RSD exceeded the 30% quality control limit on instrument M6 on 12/07/04. Nondetected results for hexachlorocyclopentadiene (32.1%) were not qualified since the exceedance was less than 50%.

Blanks

The following compound was detected in the laboratory method blank.

Blank	Compound	Result µg/L	Action Level µg/L
MB 11/21	Bis(2-ethylhexyl)phthalate	7	70

The compound was not detected in the associated samples. No qualifiers were assigned on this basis. This is noted for completeness only.

Matrix Spike/Matrix Spike Duplicate Results

A MS/MSD was not extracted and analyzed with this sample set. The laboratory extracted and analyzed a laboratory control sample and duplicate. No action was required on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.

INORGANIC COMPOUNDS**Data Completeness**

The chain-of-custody does not list the analyses to be performed. Data are not qualified on this basis.

Calibration

Laboratory reporting limit verification sample was not included in the analytical run sequence. SW 846 6010 does not require a verification sample near the reporting limit. Data are not qualified on this basis.

Matrix Spike/Matrix Spike Duplicate

For VA-1W matrix spike, the percent recovery was not calculated for calcium (dissolved), iron (dissolved), potassium (dissolved), magnesium (dissolved), manganese (dissolved) and sodium (dissolved) because the original sample concentration was greater than 4x the spike amount. Data are not qualified on this basis.

ICP Interference Check Sample

The ICP interference check sample was not spike with antimony, arsenic, molybdenum, potassium, selenium, sodium and thallium. Data are not qualified on this basis.

ICP Serial Dilution

No ICP serial dilution was performed. Data are not qualified on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.

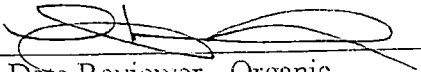
GENERAL CHEMISTRY

Data Completeness


No summary quality control forms were provided for the general chemistry parameters. Quality control parameters and raw data were provided. Data are not qualified on this basis.

Field Duplicate

No field duplicates were associated with this sample delivery group.


Data Reviewer - Organic

4/19/05
Date


Data Reviewer - Inorganic

4/19/05
Date